



National Aeronautics and
Space Administration

February 20, 1996
NRA 96-OSS-03

RESEARCH ANNOUNCEMENT

SPACE PHYSICS NEW MISSION CONCEPTS PROGRAM



Appendices A, B, & C

Notice of Intent to Propose Due:
Proposal Submission Deadline:

April 1, 1996
May 20, 1996

SUPPLEMENTAL INFORMATION FOR THE SPACE PHYSICS NEW MISSION CONCEPTS PROGRAM

1. INTRODUCTION

The space physics program of the NASA Office of Space Science (OSS) seeks to understand the mechanisms of solar variability and to elucidate the processes linking the Sun, the heliosphere, the magnetospheres of the solid body constituents of the Solar System, and the Earth's uppermost atmosphere, which is a series of subdisciplines now embodied by the Sun-Earth-Heliosphere Connections theme within OSS. The purpose of the New Mission Concepts Program is the development of innovative mission concepts that promise breakthrough advances in the study of these subdisciplines and their interdisciplinary connections. Missions of exploration and discovery are especially desirable, as are those that propose the development and/or use of new technologies that allow miniaturization, cost reduction, and/or light weighting compared to the current state of the art. Low cost missions are particularly important in these times of fiscal stringency. Thus, proposals for concepts with systems and management approaches that help reduce the cost of compelling science missions are encouraged.

The subdisciplines of space physics are defined as:

- Cosmic and heliospheric physics, which covers the origin, acceleration, and transport of the solar wind and energetic particles outward from the Sun to form the heliosphere, the galactic cosmic rays and neutral particles that stream into the heliosphere from the cosmos, and the coordinated study of the three-dimensional composition, structure, and physical processes that occur in the heliosphere and across the heliopause;
- Solar physics that has as its focus both steady state and transient structures, as well as the astrophysical processes of the Sun as a typical, middle aged dwarf star, and the role of the Sun as the dominant source of time-varying electromagnetic energy, magnetized plasma, and energetic particles that stream outward through the solar system;
- Magnetospheric physics, whose topical focuses are the interactions between the solar wind and the magnetized bodies of the solar system to form the magnetospheres of the Earth, other planets, comets, and asteroids; magnetospheric plasma dynamics and energy transfer processes including boundary layer effects; and magnetosphere-ionosphere interactions (especially of the Earth);

and

- Ionospheric, thermosphere, and mesosphere physics that seek to understand the physical mechanisms of the mesosphere and lower thermosphere, the ionosphere, and aurorae of the Earth's aerospace environment, including the dynamics and coupling of these phenomena inward to the lower terrestrial atmosphere as well as outward to the surrounding magnetosphere and heliosphere.

The emphasis in all of these disciplines is the study of naturally occurring processes in the space environment and/or the study of man-made ("active") perturbations that simulate and

elucidate *in situ* plasma processes. The study of artificially generated phenomena under conditions of zero-gravity and/or in vacuum made possible simply through access to space is not within the purview of NASA's space physics program as here defined.

Although proposals for mission concepts involving suborbital launch capabilities are allowable within this NRA, it should be noted that a single sounding rocket or balloon payload, even if proposed to be flown several times, is generally not the type of mission concept sought. [Previously proposed, low cost suborbital missions in space physics that would satisfy the objectives of this NRA are, for example, the GOAL (Galactic Origin and the Acceleration Limit) and the MSV-0 (Mechanisms of Solar Variability) programs. The objective of GOAL is to use a series of long duration balloon flights to study elemental composition at high energies (10^{13} to $>10^{15}$ eV) to provide a critical test of the origin and the acceleration mechanism of galactic cosmic rays, whereas MSV-0 uses a series of sounding rocket and balloon flights to study the physics of solar variability.]

2. **BACKGROUND**

Ideas for new mission concepts for NASA space physics programs have traditionally emerged from the community of researchers through both *ad hoc* and standing working groups that meet with NASA's program scientists, as well as by individual scientists acting on their own volition. This process has led to forty years of successful missions that have advanced the knowledge of the space physics disciplines to their respective states of current maturity. As a variation to this approach, NASA now wishes to provide to the widest possible audience an opportunity for funded studies of the largest possible range of new missions in space physics that can be executed through the next decade and that promise dramatic scientific advances.

Some concepts for future missions may build upon accomplishments and/or require use of missions in the ongoing, approved space physics program. At the present time, the long-term missions either in operation or approved for development are Yohkoh and Geotail (both joint with Japan); Ulysses, Cluster, and the Solar and Heliospheric Observatory (SOHO), which are all joint with the European Space Agency; IMP-8; Wind and Polar; Equator-S (joint with Germany); Solar Anomalous and Magnetosphere Particle Explorer (SAMPEX); Fast Auroral Sampling Explorer (FAST); Advanced Composition Explorer (ACE); Transition Region and Coronal Explorer (TRACE); Voyagers 1 and 2; and Pioneer 10. It is anticipated that flight operations for most if not all of these missions will be concluded in the early part of the next decade, although for a few special cases extended, minimum cost operations for specific scientific objectives may continue. In addition to these orbiting missions, a wide variety of suborbital rocket and balloon payloads are also being supported. Detailed information on all these programs may be obtained from the discipline scientists listed in Section 5 in this Appendix.

In addition to the above missions in the ongoing flight program, the Thermosphere, Ionosphere, Mesosphere Energetics and Dynamics (TIMED) mission is in a Phase E study, currently pending budget approval for development and flight. Therefore, mission concepts for similar science objectives are not solicited through this NRA. Another mission, called Solar Probe, is also currently receiving limited support for definition and instrument studies. Its proposed perihelion of four solar radii would enable *in situ* study of the origin of the solar wind and ultra high resolution optical observations of the Sun. This mission is currently being studied in collaboration with the Russian Space Agency as a joint mission (FIRE) as well as a smaller NASA-only mission, and NRA 95-OSS-15 for advanced instrument concepts for a Near-Sun Flyby Mission was released October 3,

1995. However, since this mission is not currently a candidate for immediate development, proposals through this NRA for innovative near-Sun missions are welcome.

Finally, this NRA does not solicit proposals for mission concepts that seek to duplicate any of the five space physics proposals recently selected for Step Two proposals in accord with the provisions of MIDEX Announcement of Opportunity AO-95-OSS-02. These proposals are (listed alphabetically by proposal title):

- ElectroMagnetic Energy Coupler (EMEC) - R. Heelis/University of Texas at Dallas;
- High Energy Solar Spectroscopic Imager (HESSI) -
R. Lin/Space Research Laboratory, University of California at Berkeley;
- Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) -
J. Burch/Southwest Research Institute;
- Position Electron Magnet Spectrometer (POEMS) -
P. Evenson/Bartol Research Institute, University of Delaware; and
- Thermospheric and Ionospheric Global Remote Sensing (TIGERS) -
R. McCoy/Naval Research Laboratory.

3. PROPOSAL PREPARATION AND SUBMISSION

3.1 GENERAL PROVISIONS

• Although the content and format of proposals may vary to some degree, it is in the spirit of this program that they at least contain the following elements:

- a detailed description of the specific scientific objectives of the proposed mission and a discussion of why these objectives are at the frontier of one or more of the disciplines in space physics;
 - a preliminary description of the experiments that could obtain the requisite data for pursuit of the proposed objectives (including a description of any technology development that may be needed);
 - a preliminary estimate of the cost of any extensive advanced technology development necessary to enable the mission concept;
 - a preliminary description of the mission architecture (i.e., spacecraft design, orbit characteristics, operational lifetime, mission operations requirements, etc.);
 - an outline discussion of how data would be received, reduced, and analyzed; and
 - a preliminary estimate of the mission's development cost (exclusive of the launch vehicle), including experiment payload and spacecraft bus.
- Proposers may propose investigations requiring periods of performance up to two years, although NASA can provide awards for only one year at a time. In the case of a multiyear proposal, the scope of the proposed research must justify such funding. NASA reserves the right to request a revised proposal with restricted objectives appropriate for a reduced period of performance and/or reduced budget, as well as to negotiate funding for multiyear awards as a condition for their renewal. Continued funding is subject to the availability of funds and demonstration of satisfactory progress as shown by a brief annual report.
- The maximum size for awards is about \$100K per year for up to two years. It is anticipated that about 15 awards will be made.

- Proposals for fabrication of a flight-qualified instrument are not allowed through this NRA. However, limited laboratory ("breadboard") development and/or testing of critical new technologies for an experiment may be proposed provided such development is fundamentally important to the completion of a proposed mission concept study.
- Owing to the current importance that NASA is placing on education outreach, all proposers are encouraged to submit proposals for a Space Physics Education Outreach (SPEO) supplement; see the final section of this Appendix. Note that proposals for such supplements may be submitted up to 30 days after the due date for the main research proposal as given below.

3.2 NOTICE OF INTENT TO PROPOSE

Advance knowledge of the proposals likely to be submitted is needed in order to plan for a timely and efficient peer review. Therefore, a nonbinding Notice of Intent (NOI) to propose following the format given on page C-2, Appendix C, is to be submitted according to the schedule and to the address given in the NRA cover letter to this Appendix.

3.3 SPECIFIC PROPOSAL PREPARATION INFORMATION

All proposals submitted in response to this NRA should be prepared following the provisions of Appendix B, as amended by the following exceptions:

- Replace paragraph (f) b. of Section 7, entitled "Transmittal Letter or Prefatory Material," in its entirety as follows:

"b. Transmittal Letter or Prefatory Material

"In addition to any transmittal letter that the sponsoring institution may wish to send, the first pages of each copy of the proposal shall consist of summary sheets using the Proposal Prefatory Material in Appendix C of this NRA as follows:

- | | |
|---|---------|
| - Research Proposal Cover Sheet | p. C-3 |
| - Research Proposal Summary | p. C-4 |
| - Research Proposal Budget Summary | p. C-5 |
| - Research Proposal Personnel Summary | p. C-7 |
| - Investigator's Current and Pending Research Support | p. C-8. |

"Pursuant to Federal legislation, proposals from non-Government institutions must be accompanied by properly executed certifications for Debarment and Suspension, Drug Free Workplace, and Lobbying (forms are enclosed in Appendix C as pages C-9, C-10, and C-11, respectively). These certifications need only be submitted with the original, signed copy of the proposal."

- Replace Section 9 of Appendix B, entitled "LENGTH," in its entirety as follows:

"Proposals should be as brief as possible, containing only substantive material essential for complete exposition of the proposed project. Proposals are limited to 15 pages exclusive of the required prefatory pages, an optional table of contents, a list of references as cited in the text, and an optional one page *curriculum vitae* and bibliography (relevant to the proposal) for the PI and each Co-I. Each side of a sheet containing text or figures is considered a page. Text is limited to 55 lines per page using a font having no more than ~14 characters per inch. For U.S. proposals, the full institutional budget in its chosen format must be included as an

appendix. Proposals must use metric units. Do not send reprints or preprints of articles nor anything in electronic recorded format. To facilitate recycling, proposals should be on white paper with minimal color or photographic inserts, printed double-sided if possible, and bound in an easily disassembled way."

- All proposals submitted by U.S. institutions, or from non-U.S. institutions that include U.S.-based Co-Investigators, must comply with the guidance in ¶i. of Section 7 of Appendix B, entitled "PROPOSED COSTS." In addition, this section is supplemented by the following two subsections concerning details of proposal costs:

"(4) The proposal must contain sufficient cost details and supporting information to facilitate a speedy evaluation and award. Dollar amounts proposed with no explanation (e.g., Equipment: \$5,000, or Labor: \$23,000) may cause delays in funding if the proposal is selected. The proposed costing information must be in sufficient detail to allow the Government to identify budgeted elements for evaluation purposes. Generally, the Government will evaluate costs in terms of their reasonableness and allowability. Each category should be explained. Offerers should exercise prudent judgment, since the amount of detail necessarily varies with the complexity of the proposal.

"Direct labor costs should be separated by titles or disciplines (e.g., Principal Investigator, Co-Investigator, clerical support, etc.) with estimated hours, hourly rates, and total amounts for each. Estimates should include a basis of estimate such as currently paid rates or outstanding offers to prospective employees. This format allows the Government to assess for reasonableness by various means, including comparison to similar skills at other organizations. Indirect costs should be explained in order for the Government to understand the basis of the estimates.

"With regard to other costs, each significant category should be detailed, explained, and substantiated. For example, proposals for equipment purchases should specify the type of equipment, number of units, and unit cost. Requested travel should include the number and duration of each trip, air fare, per diem, rental car, etc.

"(5) All subcontracts for commercial services or products associated with an individual proposal must receive approval before an award is made. Therefore, it is necessary to describe in detail all intended subcontracts by documentation such as a Statement of Work, proposed personnel, cost, fee, etc., so that a NASA awards specialist can conduct a thorough review. Subcontracts should be competitive whenever possible in order to achieve the lowest possible cost to the Government."

3.4 ADDITIONAL GUIDELINES FOR NON-U.S. PROPOSALS

NASA will accept proposals from all countries in response to this NRA, although it only funds personnel, regardless of citizenship, who are staff members of U.S. institutions. Therefore, proposals from non-U.S. organizations do not need include a cost plan for their activities. However, all non-U.S. proposals and U.S. proposals that include non-U.S. participation must comply with the following guidelines and their national sponsoring agencies to allow NASA to complete appropriate arrangements should a proposal involving non-U.S. participation be selected.

1. A Notice of Intent to propose should be submitted as indicated in Section 3.2. One additional copy of this Notice of Intent to propose must also be sent to:

International Relations Division
Code IR (NRA 95-OSS-NN)
Attn. Receiving & Inspection
300 E Street, SW
National Aeronautics and Space Administration
Washington, DC 20024-3210
USA.

[Point of contact for commercial mail delivery: Ms. Shiron Gaines
202/358-1664]

2. Proposals should be submitted in accordance with the provisions in Appendix B, as amended by Section 3.3. If the proposal involves a participant from a U.S. institution, the material in the third portion of Section 3.3 is applicable to that U.S. participant. Proposals must be type written and in English. All non-U.S. proposals will undergo the same evaluations and selection processes as U.S. proposals.
3. Non-U.S. PI's or Co-I's planning to submit a proposal should arrange with their appropriate governmental agency for endorsement of the proposed activity. Such endorsement by their national funding organization must indicate that the proposal merits careful consideration by NASA, and if the proposal is selected, that the sponsoring organization has sufficient funds to undertake the proposed activity.
4. The required number of copies of the proposal should be sent directly to the address given in the NRA letter covering this Appendix. One additional copy of the proposal and the letter of endorsement must be sent to the address in guideline 1 above in this section.
5. All proposals must be received before the established closing date. Those received after the closing date will be treated in accordance with NASA's provisions for late proposals (Appendix B, Section 11), should such action be in NASA's best interest. If review and endorsement are not possible before the closing date, non-U.S. sponsoring agencies may forward a proposal without endorsement but with the date when a decision on endorsement can be expected by NASA.
6. Shortly after the deadline for this Announcement, the NASA Program Office coordinating this Announcement will send an acknowledgment of the receipt of proposals to each proposer.
7. Successful and unsuccessful non-U.S. proposers will be contacted directly by the NASA Program Office coordinating this NRA according to the stated schedule. Copies of these letters will also be sent to the sponsoring governmental agency.
8. If a joint proposal is selected, NASA's International Relations Division will make arrangements to provide for the non-U.S. selectee's participation in the program. Such participation will be on a no-exchange-of-funds basis in which NASA and the non-U.S. sponsoring agency will each bear the cost of discharging their respective responsibilities. Depending on the nature and extent of the proposal, these arrangements may entail a letter of notification by NASA, an exchange of letters between NASA and the sponsoring foreign governmental agency, or an agreement between NASA and the sponsoring foreign governmental agency.

4. PROPOSAL EVALUATION AND SELECTION

4.1 EVALUATION CRITERIA

The criteria to be used for evaluation of proposals are given in Appendix B, Section 13, entitled "EVALUATION FACTORS," with the exceptions that paragraph ¶a. is replaced in its entirety by the following:

"a. Recommendation for selection of a proposal will be based on evaluations of the proposal's (1) intrinsic scientific and technical merit, (2) relevance to NASA's Space Physics program objectives, and (3) reasonableness, realism, and total amount of proposed cost for the study. The first two of these criteria have approximately equal weight and either is greater than the third;"

and that the following parts of ¶c. of Section 13 are replaced in their entirety by the amended text:

"c. Evaluation of a proposal's intrinsic scientific and technical merit includes the consideration of the following factors, listed in the order of decreasing priority:

1) Overall scientific or technical merit of the proposal, or unique and innovative methods, approaches, or concepts demonstrated by the proposal, especially regarding the infusion of new technologies."

4.2 EVALUATION AND SELECTION PROCEDURES

- All proposals received in response to this NRA will be reviewed on an equal basis without regard to whether the proposing investigator(s) has (have) past or current funding from any other NASA program.
- Proposal evaluations will be achieved as described in Appendix B, Section 14. A non-Government contractor is expected to aid NASA in organizing and documenting the proposal peer reviews, which will be done by mail-in and/or panel reviews. External reviewers will be asked to consider primarily the science and technical merit of the proposals, whereas cost and relevance factors are the purview of NASA. Prior to their participation in the evaluation process, all non-Government reviewers (whether participating on a panel or by mail) will be required to sign statements certifying their agreement not to disclose the contents of any proposals sent to them.
- Final selections will be made by the official designated in the NRA cover letter to this appendix, based on external peer scientific evaluations, internal programmatic reviews, and consultation with the appropriate space physics discipline scientists of the Office of Space Science, NASA Headquarters (see Section 5 below).

5. POINTS OF CONTACT FOR SCIENCE DISCIPLINES

The following science staff members below may be contacted for further information about their identified discipline areas, all of whom share the following common address:

Code SS
NASA Headquarters
Washington, DC 20546-0001
Telephone: (202) 358-1514
Fax: (202) 358-3987.

- COSMIC AND HELIOSPHERIC PHYSICS:
Dr. W. Vernon Jones
E-mail: wvjones@gm.ossa.hq.nasa.gov
- SOLAR PHYSICS:
Dr. William J. Wagner
E-mail: wwagner@nhqvax.hq.nasa.gov
- MAGNETOSPHERIC PHYSICS:
Dr. Robert Carovillano
E-mail: bcarovillano@gm.ossa.hq.nasa.gov
- IONOSPHERIC, THERMOSPHERIC, MESOSPHERIC PHYSICS:
Dr. Mary Mellott
E-mail: mmellott@hq.nasa.gov

6. SCHEDULE FOR RESEARCH ANNOUNCEMENT

The schedule for this NRA is:

Release date	February 20, 1996
Notice of Intent to propose due	April 1, 1996
Deadline for submission of proposals	May 20, 1996
Due date for optional SPEO supplement proposals	June 20 1996
Announcement of selections	August 1996
Commencement of funding	October 1996.

7. SPACE PHYSICS EDUCATIONAL OUTREACH (SPEO) SUPPLEMENT PROGRAM

7.1 BACKGROUND

In support of NASA's education strategy, the NASA's space physics disciplines began an ongoing opportunity in FY 1993 for proposers to any of their research programs to additionally propose for a modest supplement to enable educational outreach efforts in their local communities. Therefore, SPEO proposals are encouraged as supplements to all new proposals for the same period of performance as the "parent" research proposals.

The intent of this Space Physics Educational Outreach (SPEO) program is to encourage the space physics research PI's and Co-I's to become actively involved with their local K-12 schools or undergraduate colleges, as well as with appropriate public educational institutions such as science museums or planetariums, in order to provide educational opportunities and/or materials that promote general scientific literacy as much as an understanding of the space sciences. Therefore, SPEO proposals should have as their main focus the teachers of science and mathematics and/or large numbers of students or the general public. Ideally it is expected that SPEO projects will :

- actively involve the proposing PI (or an alternate Co-I for educational interests) with the audience of the SPEO program to promote science literacy (for example, it is in the spirit of this program to employ local teachers as summer research interns or to conduct a teacher workshop; it is not in this program's spirit to only buy equipment for an institution or to conduct a student science project contest);

and/or

- develop educational materials commensurate with the goals of NASA's strategic plan for education (entitled *Partners in Education* (March 1995) and available upon request; for example, a *NASA Educational Brief*, self-explanatory visual materials for the classroom, educational software, or a *NASA Curriculum Supplement* that allows appropriately explained concepts and/or data of space science to illustrate the application of the basic physics and/or mathematics).

7.2 PROGRAM DEFINITION

Specific elements for proposals in response to this SPEO program that should be met are:

- Targeting the educational outreach activity at the general public, or students and/or (especially) teachers at the K-12 or undergraduate college levels;
- Be based on an active "partnership" between the SPEO PI (who may be the PI of the parent research award or a specifically designated Co-I for education outreach) and the benefiting institution for the development and execution of the activity;
- Have reasonable intellectual linkage between the proposed outreach activity and the expertise of the PI and/or Co-I; and
- Outline a plan for evaluating the success of the proposed SPEO project, to be documented by a final report within two months of the completion of the activity.

In all cases, the emphasis of this SPEO program is on active participation of the proposing researchers with the activities proposed and on the sizing of the proposed task to ensure its completion within its proposed cost and duration (not to exceed that of the parent research award itself). Originality of a proposed effort is not a criterion for selection. What is important is that the SPEO proposal provides assurance that the effort is well planned, that it either forms a "partnership" between the researcher and the general public and/or school system, or provides assurance that educational materials will be produced and distributed. [An excellent discussion of the philosophy inherent in this program may be found in *Science Education Partnerships - Manual for Scientists and K-12 Teachers*, ed. A. Sussman, Science Press, San Francisco (1993). A list of the SPEO tasks funded for the last several years is available upon request to the point of contact given below.]

An issue in contemporary U.S. society is that few students from underrepresented minorities (especially American Native, African American, and Hispanic) enter the physical sciences as a career choice. Therefore, SPEO proposals that involve underrepresented minority students and/or teachers of such students are particularly encouraged.

The maximum award for a SPEO supplement is \$5K per year for a period not to exceed that of the parent research proposal. Since a SPEO grant supplement is seen as a benefit to the community local to the PI's institution and is provided only as an add-on to a parent research grant for which full institutional overhead is normally billed to NASA, it is desired but not required that the PI institution waive its overhead for these supplements. It is also

hoped that the provision of a SPEO grant will act to promote matching support from the PI's or other local institution(s) including, of course, the benefiting institution.

7.3 SUPPLEMENT PREPARATION AND SUBMISSION

Anyone interested in proposing to the SPEO program in conjunction with a research proposal should so note in their Notice of Intent (see p. C-2, Appendix C) as well as on the cover sheet of their research proposal (p. C-3, Appendix C). In order to allow focus on this opportunity, SPEO proposals may be submitted up to 30 days after the due date for research proposals to this NRA.

Regardless of when a SPEO proposal is submitted, it should be bound separately from the parent research proposal and consist of a SPEO Cover Sheet (p. C-12 of Appendix C), a Summary Budget Sheet using the format of p. C-5, a brief abstract, a succinct but complete description (not to exceed five pages) of the intended outreach project that addresses the key elements noted in Section 7.1 and 7.2, and a budget presented in accordance with Section 3.3 of this Appendix. If offered, waiver of overhead by the PI's institution (see Section 7.2) should be explicitly noted, as should the promise of any matching resources from other institutions, by appended authorizing letters.

Since a SPEO grant is by definition a supplement to a selected parent proposal, it is not necessary to include additional Certification forms C-9, -10, and -11. Ten copies of the SPEO supplement proposal plus the signed original must be submitted to:

SPEO Supplement
NASA Space Physics New Missions Concepts Program
Jorge Scientific Corporation
Suite 700
400 Virginia Avenue, SW
Washington, DC 20024.

7.4 EVALUATION, SELECTION, AND FUNDING INFORMATION

The only SPEO supplements that will be evaluated are those associated with proposals selected for funding through this NRA on the merits of their parent research proposals, since SPEO proposals are funded only as supplements to the main research award. SPEO proposals will be evaluated by members of the Space Physics Division, other interested members of the Office of Space Science, and the Education Division of NASA's Office of Human Resources and Education. Previous selection ratios for SPEO proposals that reasonably satisfy the program guidelines noted above have been the order of 75%. Although announcement of SPEO selections may lag those for the research grants by a few weeks, funding will be simultaneous with the parent research grant.

Questions concerning this SPEO program may be directed to:

Dr. J. David Bohlin
Code SS
NASA Headquarters
Washington, DC 20546-0001
Telephone: (202) 358-0880
E-mail: jbohlin@hq.nasa.gov

INSTRUCTIONS FOR RESPONDING TO NASA RESEARCH ANNOUNCEMENTS

June 1995

1. FOREWORD

a. These instructions apply to "NASA Research Announcements." The "NASA Research Announcement (NRA)" permits competitive selection of research projects in accordance with statute while preserving the traditional concepts and understandings associated with NASA sponsorship of research.

b. These instructions are Appendix I to 1870.203 of the NASA Federal Acquisition Regulation Supplement.

2. POLICY

a. Proposals received in response to an NRA will be used only for evaluation purposes. NASA does not allow a proposal, the contents of which are not available without restriction from another source, or any unique ideas submitted in response to an NRA to be used as the basis of a solicitation or in negotiation with other organizations, nor is a pre-award synopsis published for individual proposals.

b. A solicited proposal that results in a NASA award becomes part of the record of that transaction and may be available to the public on specific request; however, information or material that NASA and the awardee mutually agree to be of a privileged nature will be held in confidence to the extent permitted by law, including the Freedom of Information Act.

3. PURPOSE

These instructions supplement documents identified as "NASA Research Announcements." The NRA's contain programmatic information and certain requirements which apply only to proposals prepared in response to that particular announcement. These instructions contain the general proposal preparation information which applies to responses to all NRA's.

4. RELATIONSHIP TO AWARD

a. A contract, grant, cooperative agreement, or other agreement may be used to accomplish an effort funded in response to an NRA. NASA will determine the appropriate instrument.

b. Grants are generally used to fund basic research in educational and nonprofit institutions, while research in other private sector organizations is accomplished under contract. Contracts resulting from NRA's are subject to the Federal Acquisition Regulation and the NASA FAR Supplement (NHB 5100.4). Any resultant grants or cooperative agreements will be awarded and administered in accordance with the NASA Grant and Cooperative Agreement Handbook (NHB 5800.1).

5. CONFORMANCE TO GUIDANCE

a. NASA does not have mandatory forms or formats for preparation of responses to NRA's; however, it is requested that proposals conform to the guidelines in these instructions. NASA may accept proposals without discussion; hence, proposals should initially be as complete as possible and submitted on the proposers' most favorable terms.

b. In order to be considered responsive, a submission must, at a minimum, present a specific project within the areas delineated by the NRA; contain sufficient technical and cost information to permit a meaningful evaluation; be signed by an official authorized to legally bind the submitting organization; not merely offer to perform standard services or to just provide computer facilities or services; and not significantly duplicate a more specific current or pending NASA solicitation.

6. NRA-SPECIFIC ITEMS

Several proposal submission items appear in the NRA itself. These include: the unique NRA identifier; when to submit proposals; where to send proposals; number of copies required; and sources for more information. Items included in these instructions may be supplemented by the NRA.

7. PROPOSAL CONTENTS

a. The following information is needed in all proposals in order to permit consideration in an objective manner. NRA's will generally specify topics for which additional information or greater detail is desirable. Each proposal copy shall contain all submitted material, including a copy of the transmittal letter if it contains substantive information.

b. Transmittal Letter or Prefatory Material.

(1) The legal name and address of the organization and specific division or campus identification if part of a larger organization;

(2) A brief, scientifically valid project title intelligible to a scientifically literate reader and suitable for use in the public press;

(3) Type of organization: e.g., profit, nonprofit, educational, small business, minority, women-owned, etc.;

(4) Name and telephone number of the principal investigator and business personnel who may be contacted during evaluation or negotiation;

(5) Identification of other organizations that are currently evaluating a proposal for the same efforts;

(6) Identification of the NRA, by number and title, to which the proposal is responding;

(7) Dollar amount requested, desired starting date, and duration of project;

(8) Date of submission; and

(9) Signature of a responsible official or authorized representative of the organization, or any other person authorized to legally bind the organization (unless the signature appears on the proposal itself).

c. Restriction on Use and Disclosure of Proposal Information. Information contained in proposals is used for evaluation purposes only. Offerors or quoters should, in order to maximize protection of trade secrets or other information that is confidential or privileged, place the following notice on the title page of the proposal and specify the information subject to the notice by inserting appropriate identification, such as page numbers, in the notice. In any event, information contained in proposals will be protected to the extent

permitted by law, but NASA assumes no liability for use and disclosure of information not made subject to the notice.

NOTICE

Restriction on Use and Disclosure of Proposal Information. The information (data) contained in [insert page numbers or other identification] of this proposal constitutes a trade secret and/or information that is commercial or financial and confidential or privileged. It is furnished to the Government in confidence with the understanding that it will not, without permission of the offeror, be used or disclosed other than for evaluation purposes; provided, however, that in the event a contract (or other agreement) is awarded on the basis of this proposal the Government shall have the right to use and disclose this information (data) to the extent provided in the contract (or other agreement). This restriction does not limit the Government's right to use or disclose this information (data) if obtained from another source without restriction.

d. **Abstract.** Include a concise (200-300 word if not otherwise specified in the NRA) abstract describing the objective and the method of approach.

e. **Project Description.**

(1) The main body of the proposal shall be a detailed statement of the work to be undertaken and should include objectives and expected significance; relation to the present state of knowledge; and relation to previous work done on the project and to related work in progress elsewhere. The statement should outline the plan of work, including the broad design of experiments to be undertaken and a description of experimental methods and procedures. The project description should address the evaluation factors in these instructions and any specific factors in the NRA. Any substantial collaboration with individuals not referred to in the budget or use of consultants should be described. Subcontracting significant portions of a research project is discouraged.

(2) When it is expected that the effort will require more than one year for completion, the proposal should cover the complete project to the extent that it can be reasonably anticipated. Principal emphasis should, of course, be on the first year of work, and the description should distinguish clearly between the first year's work and work planned for subsequent years.

f. **Management Approach.** For large or complex efforts involving interactions among numerous individuals or other organizations, plans for distribution of responsibilities and arrangements for ensuring a coordinated effort should be described. Intensive working relations with NASA field centers that are not logical inclusions elsewhere in the proposal should be described.

g. **Personnel.** The principal investigator is responsible for supervision of the work and participates in the conduct of the research regardless of whether or not compensated under the award. A short biographical sketch of the principal investigator, a list of principal publications and any exceptional qualifications should be included. Omit social security number and other personal items which do not merit consideration in evaluation of the proposal. Give similar biographical information on other senior professional personnel who will be directly associated with the project. Give the names and titles of any other scientists and technical personnel associated substantially with the project in an advisory capacity. Universities should list the approximate number of students or other assistants,

together with information as to their level of academic attainment. Any special industry-university cooperative arrangements should be described.

h. Facilities and Equipment.

(1) Describe available facilities and major items of equipment especially adapted or suited to the proposed project, and any additional major equipment that will be required. Identify any Government-owned facilities, industrial plant equipment, or special tooling that are proposed for use.

(2) Before requesting a major item of capital equipment, the proposer should determine if sharing or loan of equipment already within the organization is a feasible alternative. Where such arrangements cannot be made, the proposal should so state. The need for items that typically can be used for research and non-research purposes should be explained.

i. Proposed Costs.

(1) Proposals should contain cost and technical parts in one volume: do not use separate "confidential" salary pages. As applicable, include separate cost estimates for salaries and wages; fringe benefits; equipment; expendable materials and supplies; services; domestic and foreign travel; ADP expenses; publication or page charges; consultants; subcontracts; other miscellaneous identifiable direct costs; and indirect costs. List salaries and wages in appropriate organizational categories (e.g., principal investigator, other scientific and engineering professionals, graduate students, research assistants, and technicians and other non-professional personnel). Estimate all manpower data in terms of man-months or fractions of full-time.

(2) Explanatory notes should accompany the cost proposal to provide identification and estimated cost of major capital equipment items to be acquired; purpose and estimated number and lengths of trips planned; basis for indirect cost computation (including date of most recent negotiation and cognizant agency); and clarification of other items in the cost proposal that are not self-evident. List estimated expenses as yearly requirements by major work phases. (Standard Form 1411 may be used).

(3) Allowable costs are governed by FAR Part 31 and the NASA FAR Supplement Part 18-31 (and OMB Circulars A-21 for educational institutions and A-122 for nonprofit organizations).

j. Security. Proposals should not contain security classified material. If the research requires access to or may generate security classified information, the submitter will be required to comply with Government security regulations.

k. Current Support. For other current projects being conducted by the principal investigator, provide title of project, sponsoring agency, and ending date.

l. Special Matters.

(1) Include any required statements of environmental impact of the research, human subject or animal care provisions, conflict of interest, or on such other topics as may be required by the nature of the effort and current statutes, executive orders, or other current Government-wide guidelines.

(2) Proposers should include a brief description of the organization, its facilities, and previous work experience in the field of the proposal. Identify the cognizant Government audit agency, inspection agency, and administrative contracting officer, when applicable.

8. RENEWAL PROPOSALS

a. Renewal proposals for existing awards will be considered in the same manner as proposals for new endeavors. A renewal proposal should not repeat all of the information that was in the original proposal. The renewal proposal should refer to its predecessor, update the parts that are no longer current, and indicate what elements of the research are expected to be covered during the period for which support is desired. A description of any significant findings since the most recent progress report should be included. The renewal proposal should treat, in reasonable detail, the plans for the next period, contain a cost estimate, and otherwise adhere to these instructions.

b. NASA may renew an effort either through amendment of an existing contract or by a new award.

9. LENGTH

Unless otherwise specified in the NRA, effort should be made to keep proposals as brief as possible, concentrating on substantive material. Few proposals need exceed 15-20 pages. Necessary detailed information, such as reprints, should be included as attachments. A complete set of attachments is necessary for each copy of the proposal. As proposals are not returned, avoid use of "one-of-a-kind" attachments: their availability may be mentioned in the proposal.

10. JOINT PROPOSALS

a. Where multiple organizations are involved, the proposal may be submitted by only one of them. It should clearly describe the role to be played by the other organizations and indicate the legal and managerial arrangements contemplated. In other instances, simultaneous submission of related proposals from each organization might be appropriate, in which case parallel awards would be made.

b. Where a project of a cooperative nature with NASA is contemplated, describe the contributions expected from any participating NASA investigator and agency facilities or equipment which may be required. The proposal must be confined only to that which the proposing organization can commit itself. "Joint" proposals which specify the internal arrangements NASA will actually make are not acceptable as a means of establishing an agency commitment.

11. LATE PROPOSALS

A proposal or modification received after the date or dates specified in an NRA may be considered if the selecting official deems it to offer NASA a significant technical advantage or cost reduction.

12. WITHDRAWAL

Proposals may be withdrawn by the proposer at any time. Offerors are requested to notify NASA if the proposal is funded by another organization or of other changed circumstances which dictate termination of evaluation.

13. EVALUATION FACTORS

a. Unless otherwise specified in the NRA, the principal elements (of approximately equal weight) considered in evaluating a proposal are its relevance to NASA's objectives, intrinsic merit, and cost.

b. Evaluation of a proposal's relevance to NASA's objectives includes the consideration of the potential contribution of the effort to NASA's mission.

c. Evaluation of its intrinsic merit includes the consideration of the following factors, none of which is more important than any other:

(1) Overall scientific or technical merit of the proposal or unique and innovative methods, approaches, or concepts demonstrated by the proposal.

(2) Offeror's capabilities, related experience, facilities, techniques, or unique combinations of these which are integral factors for achieving the proposal objectives.

(3) The qualifications, capabilities, and experience of the proposed principal investigator, team leader, or key personnel critical in achieving the proposal objectives.

(4) Overall standing among similar proposals and/or evaluation against the state-of-the-art.

d. Evaluation of the cost of a proposed effort includes the realism and reasonableness of the proposed cost and the relationship of the proposed cost and available funds.

14. EVALUATION TECHNIQUES

Selection decisions will be made following peer and/or scientific review of the proposals. Several evaluation techniques are regularly used within NASA. In all cases proposals are subject to scientific review by discipline specialists in the area of the proposal. Some proposals are reviewed entirely in-house, others are evaluated by a combination of in-house and selected external reviewers, while yet others are subject to the full external peer review technique (with due regard for conflict-of-interest and protection of proposal information), such as by mail or through assembled panels. The final decisions are made by a NASA selecting official. A proposal which is scientifically and programmatically meritorious, but not selected for award during its initial review, may be included in subsequent reviews unless the proposer requests otherwise.

15. SELECTION FOR AWARD

a. When a proposal is not selected for award, and the proposer has indicated that the proposal is not to be held over for subsequent reviews, the proposer will be notified. NASA will explain generally why the proposal was not selected. Proposers desiring additional information may contact the selecting official who will arrange a debriefing.

b. When a proposal is selected for award, negotiation and award will be handled by the procurement office in the funding installation. The proposal is used as the basis for negotiation. The contracting officer may request certain business data and may forward a model contract and other information which will be of use during the contract negotiation.

16. CANCELLATION OF NRA

NASA reserves the right to make no awards under this NRA and to cancel this NRA. NASA assumes no liability for canceling the NRA or for anyone's failure to receive actual notice of cancellation. Cancellation may be followed by issuance and synopsis of a revised NRA, since amendment of an NRA is normally not permitted.

APPENDIX C

PROPOSAL PREFATORY MATERIALS

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
• NOTICE OF INTENT (NOI) TO PROPOSE	C-2
• RESEARCH PROPOSAL COVER SHEET	C-3
• RESEARCH PROPOSAL SUMMARY	C-4
• RESEARCH PROPOSAL BUDGET SUMMARY	C-5
• BUDGET SUMMARY INSTRUCTIONS	C-6
• RESEARCH PROPOSAL PERSONNEL SUMMARY	C-7
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• CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS PRIMARY COVERED TRANSACTIONS	C-9
• CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS GRANTEE'S OTHER THAN INDIVIDUALS	C-10
• CERTIFICATION REGARDING LOBBYING	C-11
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NOTICE OF INTENT (NOI) TO PROPOSE

(use additional pages as required)

NRA 96-OSS-03

SPACE PHYSICS NEW MISSIONS CONCEPTS PROGRAM

PROGRAM ELEMENT: (identify as appropriate)

- Cosmic and Heliospheric Physics
- Solar Physics
- Magnetospheric Physics
- Ionospheric, Thermospheric, Mesospheric Physics
- Multidisciplinary (specify)

TYPE OF MISSION: (identify as appropriate)

- Suborbital: Sounding Rocket
 Balloon (Short or Long-Duration)
- Orbital: Earth orbit
 Other (specify; e.g., "Mercury orbit"; "Deep space"; etc.)

EDUCATION OUTREACH:

- Intent to submit a Space Physics Education Outreach (SPEO) Supplement? YES / NO
(neither commits to submission or non submission of an educational proposal)

DESCRIPTIVE TITLE OF INVESTIGATION:

PRINCIPAL INVESTIGATOR:

Name/Title
Institutional address including telephone,
fax number and E-mail address

CO-INVESTIGATOR(S) (to extent known by NOI deadline):

Name(s) and institutional addresses(s)

STATEMENT OF OBJECTIVES OF THE INTENDED INVESTIGATION:

(not to exceed ~one half page)

Submit this NOI by any one of the following processes, though use of electronic mail (option 2) is preferred. Acknowledgment of receipt will be sent by mail.

- By postal or express mail to: NASA Space Physics New Concepts Program
 Jorge Scientific Corporation
 Suite 700
 400 Virginia Avenue, SW
 Washington, DC 20024 USA
- Contact for commercial mail: Ms. Susan Borden
 202/554-2775
- By facsimile to: 202/554-2970 or 4923
- By electronic mail to: hlancast@leda.hq.nasa.gov

RESEARCH PROPOSAL COVER SHEET

(use additional pages as required)

NRA 96-OSS-03

SPACE PHYSICS NEW MISSION CONCEPTS PROGRAM

PROGRAM ELEMENT: (identify as appropriate)

- Cosmic and Heliospheric Physics
- Solar Physics
- Magnetospheric Physics
- Ionospheric, Thermospheric, Mesospheric Physics
- Multidisciplinary (specify)

TYPE OF MISSION: (identify as appropriate)

- Suborbital: Sounding Rocket
 Balloon (Short or Long-Duration)
- Orbital: Earth orbit
 Other (specify)

EDUCATION OUTREACH:

Intent to submit a Space Physics Education Outreach (SPEO) Supplement? YES / NO
(Neither commits to submission or non submission of an educational proposal.)

DESCRIPTIVE TITLE OF INVESTIGATION:

PRINCIPAL INVESTIGATOR:

Name/Title
Institutional address including telephone,
fax number and E-mail address
Signature

CO-INVESTIGATOR(S): (if any)

Name(s) and Institutional Addresses(s)

INSTITUTIONAL AUTHORIZATION:

Name/Title
Institutional address including telephone
Authorizing Signature/Date

BUDGET SUMMARY:

	<u>1st Year</u>	<u>2nd Year*</u>	<u>Total</u>
• Research Task (\$K):	_____	_____	_____
• SPEO Supplement (\$K)*:	_____	_____	_____

* As appropriate and required.

RESEARCH PROPOSAL SUMMARY

DESCRIPTIVE TITLE OF INVESTIGATION:

(use same title as on Cover Sheet)

PRINCIPAL INVESTIGATOR / INSTITUTION:

CO-INVESTIGATOR(S) / INSTITUTION(S):

Special Instructions. The Proposal Summary should contain the following information, should not exceed one page in total length, and may also serve as the Abstract of the proposal:

- (a) Overall objectives and strategy of the proposed work;
- (b) A brief description of what will be done and plan of activities;
- (c) Perceived relevance of proposed mission concept to NASA's space physics programs

RESEARCH PROPOSAL BUDGET SUMMARY

(see instructions below)

FROM: _____ to _____ (year ____ of a ____ year request)

TITLE OF INVESTIGATION:

PRINCIPAL INVESTIGATOR / INSTITUTION:

		<u>NASA USE ONLY</u>	
	A	B	C
1. Direct Labor (salaries, wages, and fringe benefits)	_____	_____	_____
2. Other Direct Costs:			
a. Subcontracts	_____	_____	_____
b. Consultants	_____	_____	_____
c. Equipment	_____	_____	_____
d. Supplies	_____	_____	_____
e. Travel	_____	_____	_____
f. Other	_____	_____	_____
3. Indirect Costs	_____	_____	_____
4. Other Applicable Costs	_____	_____	_____
5. Subtotal—Estimated Costs	_____	_____	_____
6. Less Proposed Cost Sharing	_____	_____	_____
7. Carryover Funds (if any)			
a. Anticipated amount	_____	_____	_____
b. Amount used to reduce budget	_____	_____	_____
8. Total Estimated Costs	_____	_____	XXXXXXXX
APPROVED BUDGET	XXXXXXXX	XXXXXXXX	_____

Instructions

1. Provide a separate Budget Summary sheet for each year of the proposed research.
2. Proposer estimated costs should be entered in Column A. Columns B and C are for NASA use only.
3. Provide attachments to the budget summary giving detailed computations of estimates in each category, along with narrative explanation of proposed costs that are not self-evident.

----- ADDITIONAL INSTRUCTIONS ON FOLLOWING PAGE -----

BUDGET SUMMARY INSTRUCTIONS

1. Direct Labor (salaries, wages and fringe benefits). Enclosures should list number and titles of personnel, amount of time devoted to the grant, and rates of pay.
2. Other Direct Costs.
 - a. Subcontracts - Enclosures should describe the work to be subcontracted, estimated amount, recipient (if known), and the reason for subcontracting this effort.
 - b. Consultants - Identify consultants to be used, why they are necessary, time to be spent on the project, and rates of pay.
 - c. Equipment - List separately and explain the need for items of equipment exceeding \$1,000. Describe the basis for the estimated cost.
 - d. Supplies - Provide general categories of needed supplies, the method of acquisition, estimated cost, and the basis for the estimate.
 - e. Travel - List the proposed trips individually, describe their purpose in relation to the grant, provide dates and destinations where known, and explain how the cost for each was derived.
 - f. Other - Enter the total of any other direct costs not covered by 2.a through 2.e. Enclose an itemized list explaining the need for each item and the basis for the estimate.
3. Indirect Costs. Identify indirect cost rate(s) and base(s) as approved by the cognizant Federal agency, including the effective period of the rate. If unapproved rates are used, explain why and include a computational basis for the indirect expense pool and corresponding allocation base for each rate.
4. Other Applicable Costs. Enter the total of any other applicable costs not covered by instructions 1 through 3. Enclose an itemized list explaining the need for each item and the basis for the estimate.
5. Subtotal -- Estimated Costs. Enter the sum of items 1, 2.a through 2.f, 3, and 4.
6. Less Proposed Cost Sharing (if any). Enter the amount proposed, if any. If cost sharing is based on specific cost items, identify each item and amount in enclosures.
7. Carryover Funds (if any). Enter the dollar amount of any funds that are expected to be available for carryover from the prior budget period.
8. Total Estimated Costs. Enter the total after subtracting items 6 and 7 from item 5.

RESEARCH PROPOSAL PERSONNEL SUMMARY

(provide for each year of proposed effort.)

TITLE OF INVESTIGATION:

PRINCIPAL INVESTIGATOR AND INSTITUTION:

YEAR 1: SUMMARY OF PERSONNEL (Nearest 0.1 work years (WY), nearest \$K)

1. Senior personnel (list name(s)).....	WY	___	\$	_____
2. Postdoctoral associate (list name(s)).....	WY	___	\$	_____
3. Student(s) (give number).....	WY	___	\$	_____
4. Technical support staff (give number).....	WY	___	\$	_____
5. Other.....	WY	___	\$	_____
6. TOTAL.....	WY	___	\$	_____

YEAR 2: SUMMARY OF PERSONNEL (as appropriate)

.....

INVESTIGATOR'S CURRENT AND PENDING RESEARCH SUPPORT

1. For the Principal Investigator and each Co-Investigator, provide separately for categories A and B the following information:

- Source of support
- Project title and sentence abstract
- Award amount
- Period covered by award
- Work-year commitment of the proposed Investigator.

A. Currently supported research project(s) that will be active during FY 1996 (October 1, 1995, through September 30, 1996).

B. Research project(s) for which support is pending (including this proposal).

2. List the name of any other funding sponsor to which this proposal has been or will be contemporaneously submitted, including relevant dates.

**CERTIFICATION REGARDING
DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS
PRIMARY COVERED TRANSACTIONS**

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, Section 85.510, Participant's responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211). Copies of the regulations may be obtained by contacting the U. S. Department of Education, Grants and Contracts Service, 400 Maryland Avenue, S. W. (Room 3633 GSA Regional Office Building No. 3), Washington, D. C. 20202-4725, telephone (202) 732-2505.

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification; and
 - (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Institution

Principal Investigator

Name and Title of Authorized Representative

Signature

Date

**CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS
GRANTEES OTHER THAN INDIVIDUALS**

This certification is required by the regulations implementing the Drug-Free Workplace Act of 1988, 34 CFR Part 85, Subpart F. The regulations, published in the January 31, 1989 Federal Register, require certification by grantees, prior to award, that they will maintain a drug-free workplace. The certification set out below is a material representation of fact upon which reliance will be placed when the agency determines to award the grant. False certification or violation of the certification shall be grounds for suspension of payments, suspension or termination of grant, or government wide suspension or debarment (see 34 CFR Part 85, Sections 85.615 and 85.620).

The grantee certifies that it will provide a drug-free workplace by:

- (a) Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession or use of a controlled substance is prohibited in the grantee's workplace and specifying the actions that will be taken against employees for violation of such prohibition;
- (b) Establishing a drug-free awareness program to inform employees about—
 - (1) The dangers of drug abuse in the workplace;
 - (2) The grantee's policy of maintaining a drug-free workplace;
 - (3) Any available drug counseling, rehabilitation, and employee assistance programs; and
 - (4) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;
- (c) Making it a requirement that each employee to be engaged in the performance of the grant be given a copy of the statement required by paragraph (a);
- (d) Notifying the employee in the statement required by paragraph (a) that, as a condition of employment under the grant, the employee will—
 - (1) Abide by the terms of the statement; and
 - (2) Notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after such conviction;
- (e) Notifying the agency within ten days after receiving notice under subparagraph (d)(2) from an employee or otherwise receiving actual notice of such conviction;
- (f) Taking one of the following actions, within 30 days of receiving notice under subparagraph (d)(2), with respect to any employee who is so convicted—
 - (1) Taking appropriate personnel action against such an employee, up to and including termination; or
 - (2) Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency;
- (g) Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs (a), (b), (c), (d), (e) and (f).

Institution

Principal Investigator

Name and Title of Authorized Representative

Signature

Date

CERTIFICATION REGARDING LOBBYING

As required by S1352 Title 31 of the U.S. Code for persons entering into a grant or cooperative agreement over \$100,000, the applicant certifies that:

- (a) No Federal appropriated funds have been paid or will be paid by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, in connection with making of any Federal grant, the entering into of any cooperative, and the extension, continuation, renewal, amendment, or modification of any Federal grant or cooperative agreement;
- (b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting an officer or employee of any agency, Member of Congress, an or an employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete Standard Form -LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (c) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subgrants, contracts under grants and cooperative agreements, and subcontracts), and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by S1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Organization Name

AO or NRA Number and Name

Printed Name and Title of Authorized Representative

Signature

Date

Printed Principal Investigator Name

Proposal Title

SPACE PHYSICS EDUCATION OUTREACH (SPEO)
COVER SHEET

NRA 95-OSS-NN
SPACE PHYSICS NEW MISSION CONCEPTS PROGRAM

TITLE OF "PARENT" RESEARCH PROPOSAL:

DESCRIPTIVE TITLE OF SPEO ACTIVITY:

PRINCIPAL INVESTIGATOR:

(must be same as parent research proposal)

Name/Title
Institutional address including telephone
and e-mail address
Signature/Date

CO-INVESTIGATOR:

(may serve as the primary investigator for the proposed SPEO proposal and need not be the same as a Co-I on the parent research proposal)

Name and Institutional Addresses

INSTITUTIONAL AUTHORIZATION(s):

(include at least the PI's institution, plus that of any Co-I for the SPEO activity if a different institution from that of the PI)

Name/Title
Institutional address including telephone
Authorizing Signature/Date

SPEO BUDGET SUMMARY (\$K): 1st Year 2nd Year Total

NASA Research Announcement (NRA)/Announcement of Opportunity (AO) Mailing List Update

If your current address is NOT up-to-date, please fill out this form completely.

This is the update form for the NASA Office of Space Sciences (OSS) NRA/AO mailing list. Please fill out CONTACT INFORMATION completely. Check only those that apply in Institution Type and Discipline. Fold the form, secure with tape, and mail it back to the address on the reverse side. Proper postage must be applied.

MUST CHECK ONE

Please check which announcements you would like to receive:

- ☐ 1. NASA Research Announcements (basic, non-flight, on-going research)
☐ 2. Announcements of Opportunity (specific space flight mission)

Must check one, please include code number from mailing label:

- ☐ 1. Please **add** my name to the mailing list.
☐ 2. Please **remove** my name from the mailing list (please attach mailing label)
☐ 3. Please **update** my current listing.

CONTACT INFORMATION

If your address has changed or your mailing label is incorrect, please provide **COMPLETE** contact information.

Code Number: (obtain from mailing label)	<input type="text"/>	Salutation: (Mr., Mrs., Ms., Dr., Prof., etc.)	<input type="text"/>	Suffix (Ret., PhD., Jr., III, etc.)	<input type="text"/>
First Name:	<input type="text"/>	MI:	<input type="text"/>	Last Name:	<input type="text"/>
Organization:	<input type="text"/>				
Division / Department:	<input type="text"/>				
Street:	<input type="text"/>				
City:	<input type="text"/>	State:	<input type="text"/>	Zip:	<input type="text"/>
Telephone No:	<input type="text"/>	Fax No:	<input type="text"/>		
E-Mail Address:	<input type="text"/>		Internet Address:	<input type="text"/>	
Country: (foreign addresses, please specify)	<input type="text"/>				

Institution Type

check only those that apply)

- | | | |
|--|---|---|
| <input type="checkbox"/> 1. College or University | <input type="checkbox"/> 4. Minority Business | <input type="checkbox"/> 7. Other Government Agency |
| <input type="checkbox"/> 2. Minority College or University | <input type="checkbox"/> 5. NASA HQs/Center | <input type="checkbox"/> 8. Private Industry |
| <input type="checkbox"/> 3. Foreign Addressee | <input type="checkbox"/> 6. Nonprofit Corporation | <input type="checkbox"/> 9. Small Business |

Societies:

- ☐ A. American Astronomical Society ☐ B. American Geophysical Union ☐ C. Others

Discipline:

check only those that apply)

(MUST CHECK AT LEAST ONE)

1. Astronomy and Astrophysics

- ☐ A. Theory and Modeling
☐ B. Instrumentation (Technology Dev)
☐ C. Laboratory Astrophysics
☐ D. Data Analysis (Archival)
☐ E. Observational Programs

2. Solar System Exploration

- ☐ A. Planetary Atmospheres and Astronomy
☐ B. Planetary Materials and Geochemistry
☐ C. Planetary Geology and Geophysics
☐ D. Instrument Development
☐ E. Origins of Solar Systems
☐ F. Exobiology

3. Space Physics

- ☐ A. Cosmic and Heliosphere Physics
☐ B. Solar Physics
☐ C. Magnetospheric Physics
☐ D. Iono-Thermo-Mesospheric Physics

4. Information Systems/Computer Science

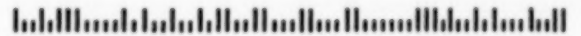
- ☐ A. High Performance Computing and Networking
☐ B. Scientific Data Analysis and Visualization
☐ C. Science Data Storage and Management
☐ D. Software Technology

Please Tape (Do not staple)



PLACE STAMP
HERE
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
OFFICE OF SPACE SCIENCE
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WASHINGTON, DC 20546-0001



**NASA
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UPDATE**

END

11-04-96